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# Geothermal Transformatiom of Organic Matter in Supercritical Water with Magnetite and Coal Particles

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## Abstract

© 2017, Springer Science+Business Media New York.The mechanisms of conversion of high-viscosity oil in supercritical water in the presence of finely dispersed coal and magnetite are clarified. The experiments were conducted in a closed reactor under conditions that ensure transition of the aqueous phase to a supercritical fluid. The general mechanisms of change in component and group compositions are explained, and the rheological properties of the original and transformed oil are studied. Degradation of the high-molecular part of the feedstock with formation of light hydrocarbons that were absent in the original oil is confirmed, and the significant decrease in viscosity of the transformed oil relative to the original is proved.

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## Keywords

aquathermolysis, caustobiolith (combustible fossil), heavy oil, rheological curves, supercritical water

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